

Remarks

In the Office Action, claims 1-24 were rejected under 35 U.S.C. §112, second paragraph and claims 1, 21 and 24 were rejected under 35 U.S.C. §103 as being unpatentable over Newell.

In response, Applicant respectfully traverses the §112, but nonetheless has amended claims 1, 17, 21 and 24 for clarification. Applicant has amended claims 1, 21 and 24 to overcome the §103 rejections.

§112 Rejections

Applicant respectfully traverses the rejection of claims 1-24 under §112, second paragraph. In particular, Applicant submits that the term “presumptive geometric relationship” is not vague nor indefinite since it is described and defined with particularity in the claims as well as the specification.

Although not limited to the specific embodiments in the specification, claims 1, 21 and 24, and all of the dependent claims are clearly supported by the specification.

As recited in claim 1, a computer system is operated in “presumptive mode”, where a selected graphic object is manipulated into a presumptive geometric relationship with an underlying graphic object according to “predetermined geometric rules.”

Claim 21 recites automatically manipulating an object into a presumptive geometric relationship with the underlying graphic object.

In a similar manner, claim 24 recites a presumptive mode computer aided design system for interactively manipulating and displaying a selected object according to predefined geometric relationships, where the computer manipulates the graphic object and an associated design file in to a presumptive geometric relationship when the selected object is within proximity with an underlying graphic object.

The concepts of a presumptive mode of operation, presumptive points and predefined geometric rules are provided on page 3, lines 2-11, and repeated here for convenience:

A method and apparatus according to the present invention replaces the tentative point mode of computer graphics input with a "presumptive point" mode tied to the motion of the input device. In the presumptive mode of operation, a computer system constantly presumes points of interest, referred to as cling points, which are in proximity with an on-screen pointing device or cursor for the operator to accept or reject. Predefined rules are maintained to limit selection to objects of interest and to perform the geometric computations that provide other related functions such as tangent, offset, parallel, alignment, end point, major vector, divided segment, extended segment, intersection and other specific coordinate locations derived from the graphic objects that comprise a digital design.

Also, geometric rules are otherwise referred to as "geometric specifications", where the interactive behavior of the graphics objects are constrained by such specifications (see page 3, lines 19-21). During operation of a specific embodiment, an operator selects an object and "floats" or otherwise moves the object with the cursor to an underlying object, and the objects interact according to these rules or specifications. As described on page 4, lines 3-6, these geometric relationships are automatically made and dynamically updated as the operator moves the cursor and floating object to a desired location. The operator then merely accepts or rejects the presumptive relationship with no further input. The computer, therefore, provides the operator with feedback for the "proposed relationships" between the new object and existing graphic objects, where the operator responsively accepts or rejects such presumed or proposed geometric relationships (see page 7, lines 22-24).

Applicant further submits that the specification also includes numerous examples of manipulating a selected graphic object into a geometric relationship with an underlying graphic object according to predetermined geometric rules. Applicant respectively submits, therefore, that the term "presumptive geometric relationship" is not vague.

For purposes of clarity and expediency, claims 1, 21 and 24 are amended to remove the term "presumptive". Thus, the selected object is manipulated into a geometric relationship according to predetermined geometric rules.

Applicant further submits that the term "floating" is not vague nor indefinite but is fully supported in the specification. The term "floating" is used to describe how the object is moved

with the cursor until it assumes a geometric relationship with one or more underlying graphic objects. For example, in the specification on page 8, line 28 to page 9, line 1, a selected object floats with the cursor (thus called a floating object) at a particular displacement, rotation and orientation according to predetermined criterion. Such criterion could include, for example, particular offsets, rotations, orientations, etc.

It is noted that the term “floating” is intended to be synonymous with the term “moving”, where graphic objects are moved or dragged with the cursor. Applicant suggests that the Examiner may have confused floating the object with the object being manipulated into a geometric relationship *after it is moved to within a predetermined proximity of an underlying graphic object*. Therefore, claims 1, 17, 21 and 24 are amended to replace the terms “float”, “floats” and “floating” with “move”, “moves” and “moving”, respectively, for clarity of the claims.

Applicant respectfully submits, therefore, that the terms “presumptive geometric relationship” and “floating” are not vague and that the claims are definite as written. However, claims 1, 17, 21 and 24 are amended to remove the word “presumptive” and replace the word “floating” for clarification. Applicant respectfully requests withdrawal of the §112 rejections.

§103 Rejections

Applicant respectfully traverses the rejection of claims 1, 21 and 24 based on Newell. Newell is a static, interesting point-based inference engine. Newell is generally limited to a singular interesting point per object, where the interesting points are typically fixed and inferred and thus limited to certain discrete points, such as an endpoint or a midpoint. As shown in Figures 2A and 2B and as described in columns 4 and 5 of Newell, for example, particular interesting points are identified on existing objects. As shown in Newell’s Figures 2B and 3B, the interesting points may be identified and labeled on an existing object. The operator or user is limited to the particular points, and must then define how an object is related to that point. Newell does not disclose, teach or otherwise suggest manipulating a selected graphic object into

a geometric relationship according to predetermined geometric rules with an underlying graphic object as described in Applicant's claims 1, 21 and 24.

It is further noted that the Newell is limited to a static configuration, where an object must be further manipulated after being placed at an interesting point. As described on page 4, lines 3-6, geometric relationships are automatically made and dynamically updated as the operator moves the cursor and floating object to a desired location.


Therefore, claims 1, 21 and 24 are amended to clarify that the selected object is manipulated into a geometric relationship with the underlying graphic object, and then the geometric relationship is dynamically updated based on movement of the graphic cursor while the cursor remains within a predetermined proximity of the underlying graphic object. Newell does not disclose, teach or otherwise suggest dynamically updating geometric relationships according to predetermined geometric rules with an underlying graphic object as described on Applicant's claims 1, 21 and 24, as amended.

Applicant respectfully submits, therefore, that the §103 rejections of claims 1, 21 and 24 have been overcome and should be withdrawn. The remaining dependent claims 2-20, 22 and 23 are also allowable as depending upon allowable claims.

Conclusion

Therefore, in view of the above amendments and remarks, Applicant submits that the claims 1-24 are in condition for allowance. Withdrawal of the objections and rejections is requested.

Respectfully submitted,



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